THE RELATIONSHIP BETWEEN ACADEMIC CONFIDENCE AND ACADEMIC ACHIEVEMENT OF SELECTED FIRST TIME STUDENTS AT GRAND VIEW COLLEGE

A Thesis

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Specialist in Education

by Carolyn M. Veldhuizen Wassenaar

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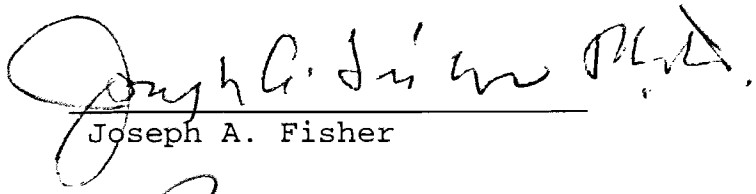

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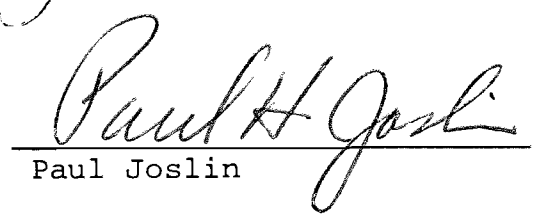

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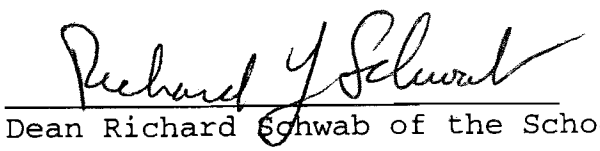

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THE RELATIONSHIP BETWEEN ACADEMIC MOTIVATION AND ACADEMIC ACHIEVEMENT OF SELECTED FIRST TIME STUDENTS AT GRAND VIEW COLLEGE

An abstract of a Thesis by
Carolyn M. Veldhuizen Wassenaar
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Drake University
Advisor: Joseph A. Fisher

The problem. Colleges and universities experience limited success using traditional criteria for identifying academically at-risk students. This study used College Student Inventory, Nelson Denny Reading Test scores, and GPA to investigate the relationship among academic achievement, confidence, and study habits for selected academically at-risk students at Grand View College.

Procedures. Students scoring below the 35th percentile on the Nelson Denny Reading Test who were advised and enrolled in College Level Reading (n = 24) were paired with students who were advised but did not enroll in College Level Reading (n = 22) Fall 1991. Posttest results and first semester grade point averages were compared.

Findings. The small number of students in the control group for whom all data were available (n = 6) prevented completion of meaningful calculations. However, simple comparisons revealed greater gains for the experimental group on all measures.

Further analysis of at-risk students (n = 19) who enrolled in College Level Reading indicated statistically significant levels of mean grade equivalency gain (t-Test = 10.17 p = .0001) on the Nelson Denny Reading Test.

Conclusions. Students enrolled in College Level Reading achieved statistically significant gains in achievement on the Nelson Denny Reading Test in one semester, but correlations between achievment, confidence, and study habits were not statistically significant despite indications of a positive relationship. The characteristic elusiveness of academically at-risk students coupled with limited time allowed for intervention could have influenced results.

Recommendations. A repeated study with larger numbers of students for a longer period of intervention would be recommended.

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CHAPTER 1

INTRODUCTION

Identification of the Problem

In the 1990's colleges and universities are adopting a more assertive stance with regard to student retention and it is becoming acceptable to actively work with students to ensure academic persistence and success. Students come to college possessing a wide diversity of academic skills, learning behaviors, and achievement potential. A student's potential for success is routinely judged by some combination of high school grade point average, rank in class, standardized college entrance exam, and/or placement test scores. Students are accepted or rejected and encouraged or discouraged from continuing post secondary education based upon such quantitative measures. However, learning behavior is inherently complex and difficult to assess. Among students predicted by various measures to succeed, some fail, and among those predicted to fail, some succeed.

Reliable and timely identification of students with potential for success is highly desirable. Each year many students leave college campuses. As institutions reflect

upon their lack of success in retention, an uneasy feeling begins to enter the minds of those most concerned with institutional and personal accountability. Initially the concern is for lost revenue, but there is also concern for the welfare of the individual student, the loss to society of human potential, and the reduction of institutional effectiveness in social responsibility.

In the 1960's it became accepted that students "had the right to fail" (Mickler & Chapel, 1989, p. 3). Students were held personally responsible for being adequately prepared to meet the academic demands of college life and programs of remediation were optional. However, as demographics changed and more diverse populations enrolled in colleges and universities, it became necessary to consider a response to the varying degrees of academic preparedness entering students brought to institutions. One nationwide study of the decline in literacy rates reports that the average high school graduate today graduates with better than a B average, yet reads below the eighth grade level (Roueche, Baker, and Roueche, 1989). Other reports state that 30-40 percent of the entering freshmen are deficient in college level reading and writing skills (Wharton, 1979; Plisko & Stern, 1985). Although academic unpreparedness is only one of the explanations of attrition identified by Noel, Levitz, Saluri, & Associates (1985), it

is unreasonable to expect a student without adequate reading skills to be an effective student either in terms of performance or feelings of capability.

Attitudes are changing. Students are not excused from their responsibilities as learners but the focus within institutions has shifted to ensure that a larger porportion of their students will succeed. Consequently, a growing number of institutions require pre-enrollment assessment and mandatory placement as a means of providing opportunities for students to acquire the skills necessary to ensure they will persist and succeed academically.

Theoretical Background

Assessments should be used to provide empirical evidence for what needs to be taught to whom. Traditionally the means for identifying at-risk students has been limited to an evaluation of past performance (high school grade point average or class rank) and test-taking ability (college entrance exams or placement tests scores). However, if such predictors of success in college are suitable, how do we explain why such great numbers of students continue to fail and leave college campuses? Even test makers admit that neither grades nor test scores are perfectly reliable measures, and that grades reflect a

number of factors, including effort(Wambaugh & Brothen, 1990).

Meaningful, useful assessments may be used to develop academic profiles of students which may serve as the basis for making instructional decisions to assist them. Some argue that such assessment should include more attention to measures of the kind and degree of effort a student puts forth in study as well as other indicators of a student's mastery of cognitive processes related to the specific academic setting. Institutional credibility improves when support services and curricular offerings are closely and reliably related to actual student needs and contribute measurably to individual growth and development in the achievement of educational outcomes (Noel et.al., 1985). When students know what to do and how to succeed in the academic environment called college, everyone benefits.

Two standardized assessment instruments developed to aid in the evaluation of student ability are the College Student Inventory and the Nelson Denny Reading Test.

The College Student Inventory

The College Student Inventory is a multidimensional inventory developed by Michael Stratil and managed by Noel Levitz Centers for Institutional Effectiveness and Innovation. The developers of the inventory maintain its

ability to delineate and measure specific academic and non-academic motivational factors which may contribute to student persistence and success in college. As an indicator of student need and consequent level of risk, it provides timely information about each first-year student for colleges and universities to use in determining possible risk factors and for designing and implementing effective intervention.

The College Student Inventory consists of 194 individual items organized into five major categories including Academic Motivation, Social Motivation, General Coping, Receptivity to Support Services, and Supplementary Items. Each major category is subdivided into nineteen independent motivational scales.

Academic Motivation includes Study Habits, Intellectual Interests, Academic Confidence, Desire to Finish College, and Attitude toward Educators.

Social Motivation includes Self-Reliance, Sociability, and Leadership.

General Coping contains those scales that measure the Ease of Transition, the level of Family Emotional Support, Openess to new or different ideas and experiences, the degree of Career Planning, and the Sense of Financial Security.

Receptivity to Support Services is comprised of scales that measure a student's desire to receive assistance from the institution including Academic Assistance, Personal Counseling, Social Enrichment, and Career Counseling.

Supplementary Scales include a measure of the student's Initial Impression of the institution and the Internal Validity or care with which the student completed the inventory.

The five scales that comprise Academic Motivation do not combine to form a single measure or score of academic motivation. The subsets are independent motivational scales.

The Study Skills scale identifies those characteristics that indicate a student's willingness to make the sacrifices needed to achieve academic success.

Intellectual Interests attempts to measure the degree to which the student enjoys the actual learning process. It does not identify or try to measure the degree of effort a student may exert to attain high grades or to complete a degree.

Academic Confidence is a measure of academic self-efficacy. Students who may have low academic confidence may have a misperception of their abilities to perform well in school.

Desire to Finish College measures the importance a student places upon a college education, the satisfactions

of college life and the long-term benefits of degree completion.

A negative Attitude Toward Educators may interfere with academic success because the student has not encountered positive or nurturing school experiences.

For the purposes of this study, academic confidence measures the degree to which one feels capable of doing well in college. Questions on the College Student Inventory which seem to indicate items related to academic confidence include:

29. Often I get so uptight about an exam that I can't concentrate on studying;

34. I would like to receive some help in improving my study habits;

40. I have a good memory for information that teachers present in class;

43. I have great difficulty concentrating on school work;

68. I would like to receive some instruction in the most effective ways to take college exams;

73. When I need to, I can work quickly on an exam without getting uptight;

75. I would like to talk with a counselor about my general attitude toward school;

84. My vocabulary is fairly limited and I have a hard time understanding textbooks;

86. I would like to receive some individual help in improving my writing skills;

#114. I would like to receive some individual help with basic mathematics;

#121. I get so nervous during an exam that I tend to lose track of what I'm doing;

#135. My mind is able to grasp complicated ideas;

#151. I would like to receive some training to improve my reading skills; and

#168. I would like to receive tutoring in one or more of my courses.

Study habits are the behaviors regularly practiced during study. Questions which seem to relate to study habits on the College Student Inventory include items such as:

25. I study all the assigned readings in my courses;

67. I usually put off doing school assignments until it's too late;

99. Studying is only a small part of my life, and I don't take it very seriously;

#111. My studying is very irregular and unpredictable;

#119. I study hard for all my courses, even those I

don't like; and

#133. When I study, I usually get bored and quit after a few minutes.

Questions which seem to measure both academic confidence and study behavior include:

60. I take very clear notes during class, and I review them carefully before a test;

#103. I am very good at figuring out what material is most important for an exam and what is secondary;

#146. I have developed some very effective study techniques;

#154. The notes I take during class are very spotty;

#165. When taking notes in class, I often get confused and can't keep up;

#172. I have developed a solid system of self-discipline, which helps me keep up with my school work; and

#179. During an exam I'm able to concentrate and keep my thoughts well organized.

The Nelson Denny Reading Test

The Nelson-Denny Reading Test is a timed test designed to measure student achievement in vocabulary development, reading rate, and reading comprehension. It is recommended

as a screening instrument to use in the identification of those students who may benefit from an accelerated program as well as those students who may need developmental assistance with their reading. The Vocabulary subtest requires the student to respond to one hundred vocabulary items with minimal contextual cues within a fifteen minute time limit. The words are chosen from selected materials to insure inclusion of words students must know if they are to deal effectively with college level reading materials. The Comprehension portion of the test is comprised of eight reading passages (seven of which contain approximately two hundred words each) and a total of thirty-six multiple choice comprehension questions to be completed within twenty minutes. To accommodate the diversity of reading abilities and interests, passages were selected from current text and periodical materials (1981) including examples from humanities, social sciences, natural and physical sciences which range in readability from grades nine through sixteen. Forms E and F have been statistically equated and can be used interchangeably as pretests and posttests to measure student growth and effectiveness of teacher instruction.

Statement of the Problem

Colleges want to effectively identify and assist at-risk students. Traditional indicators do not seem to be

reliable in identifying students who may experience difficulty in college for nonacademic reasons. If colleges could find and use assessment instruments which would more clearly identify students' academic and nonacademic needs, then intervention could be designed and implemented to more effectively address those needs.

Does the Nelson Denny Reading Test combined with the College Student Inventory provide more reliable information in identifying at-risk students? Does College Level Reading, an intervention program at Grand View College designed to provide direct instruction in effective academic reading and study strategies as well as contribute to the development of academic coping strategies, increase at-risk students' academic confidence, persistence and success?

Purpose of the Study

The purpose of this study was to explore the relationship between academic motivation as measured by the College Student Inventory and reading performance as measured by the Nelson Denny Reading scores and first semester grade point averages of selected first time students at Grand View College. Academic motivation includes the variables of study habits, intellectual interests, academic confidence, desire to finish college and attitude toward educators.

The subscales specifically investigated in this study were Study Habits and Academic Confidence because of their relationship to the course content of Education 100, College Level Reading.

Rationale

If the relationship between students' academic confidence and grade point average is significant, then the subscale of academic confidence could be viewed as an indicator of probable persistence and success in college. Likewise, a significant relationship between study habits and grade point average could indicate a possible cause/effect relationship between behavior and success. Establishing these two elements as contributers to the persistence and success of at-risk students could influence assessment, curriculum and intervention decisions.

With instructional emphasis in College Level Reading as the personal application of effective reading and study strategies, one would predict study habits to improve and academic confidence to increase as students' perception of their ability to control the academic environment increases. Likewise, one would expect such improvement of performance to be reflected in increased GPA.

Current identification and placement procedures use the Nelson Denny Reading Test scores exclusively as the basis

for recommending that students enroll in College Level Reading. Additional insights about students' academic motivation gained from the College Student Inventory may enhance the reliability of the identification and placement process and determine the effectiveness of the intervention program provided.

Limitations

This study was limited in several respects. The results presented were based on students from a single four-year liberal arts open enrollment institution in an urban setting.

College Level Reading was taught without the benefit of the College Student Inventory evaluations. Identification was based solely on the results of the Nelson Denny Reading Test and were not combined with the Nelson Denny Reading Test to identify at-risk students and make placement decisions.

The final sample size for the control group was too small (n = 6). Although the control group began with 22 students who chose not enroll in College Level Reading, it was not a cohesive group and proved too difficult to schedule for posttesting. The final number of students from the control group for whom all data were available was 6.

Although the experimental group (n = 24) was posttested as planned, the final number of students for whom all information was available equaled 19.

The posttest for the College Student Inventory was the same form as the pretest.

Time was another limitation. One semester of intervention and observation is probably insufficient for establishing radical modifications in student attitude and behavior, especially academically at-risk students.

Any conclusions drawn should certainly be guarded and not predictive or generalizable to the larger population.

CHAPTER 2

REVIEW OF THE LITERATURE

Identification
Predictors of Success

Ideally students come to college anticipating the adventures of learning, fully ready to enthusiastically participate, and succeed in the academics of college life. However, many students arrive on college campuses full of anxiety, possessing varying degrees of certainty about why they came to college, and with doubts about their ability to effectively manage and complete the academic requirements. They also have concerns about the adequacy of their financial resources which can prevent them from focusing completely on their studies and their ability to develop an attachment to the institution and its way of life. Because it is more cost effective to retain students once recruited than replace drop-outs with new students (Noel et.al., 1985), colleges and universities are becoming more concerned with their effectiveness in identifying at-risk students and providing appropriate and successful intervention services. Effective intervention for academically at-risk students is greatly contingent upon how accurately they are identified. The academically underprepared or deficient student may appear to be easy to identify, but human behavior is complex and difficult to assess and quantify. The true reasons why at-risk students persist or drop out of college are also complex and elusive.

Traditional forms of assessment do not adequately discriminate between students who appear to be qualified but who will not succeed academically; and those who appear to be unqualified but who will succeed without intervention; or those who are academically deficient but who can succeed with suitable intervention; and those who are unqualified and cannot be made more qualified by any current institutional intervention (Wambach & Brothen, 1990).

Presently, a student's probable academic survival is determined by some combination of high school grade point average, class rank, college entrance exams and/or placement test scores, which are assumed to have a direct relationship with reading, writing, computing, and therefore, academic success. But high school grades and standardized assessment instruments measure students' prior knowledge rather than current performance and do not reflect the most recent understandings of cognition, intellectual development, or the reading process (Wambach & Brothen, 1990; McWhorter & Nist, 1991). Educational Testing Service (ETS) found correlations between the Descriptive Tests of Language Skills scores and first semester grade point averages to be a weak 0.3 or 0.4 depending on the specific skills test (Guide to the Use of Descriptive Tests of Language Skills, 1985).

Correlations for 135 freshman students at Grand View College Fall 1991 were computed to be 0.34 between the ACT reading score and first semester grade point averages and 0.24 between the Nelson Denny Reading Test Form E composite score and first semester grade point averages. In general, standardized testmakers and retention consultants admit that neither standardized test scores nor high school grades are dependably reliable predictors of college success.

Hardin (1988) formulated several assumptions pertaining to the underprepared student. Underpreparedness is complex,

often beyond the control of the individual, yet fixable when time is negotiable and placement is appropriately related to academic, social, and personal outcomes. In today's society the percentage of academically underprepared students continues to increase in number, diversity of age, socioeconomic status, previous academic performance, standardized test scores and emotional health (Moore & Carpenter, 1985). Classifying students as academically underprepared could include highly motivated persons lacking adequate skills for academic success as well as persons who are at-risk for a number of other reasons. Students may be living out the consequences of poor academic choices, returning to school after years of absence from the academic setting, counteracting previous educational opportunities resulting from a culturally or educationally disadvantaged setting or because English is the second language, and/or experiencing the ramifications of an undetected academic weaknesses or learning disability (Hardin, 1988; Mickler & Chapel, 1989; Moore & Carpenter, 1985).

Demographics indicate that the academically at-risk student is here to stay thereby validating the need for reliable broad-based predictors of academic success. Assessment and diagnosis of students ability to read, write, and compute as well as their motivational and emotional readiness is essential. Standardized test scores and high school grades provide only a portion of the picture. Many institutions are realizing the need to incorporate assessments which measure the affective dimensions and other cognitive variables such as problem solving capabilities and use of effective learning strategies (McWhorter & Nist, 1991) into their placement program.

Academic Motivation
The Will

The effort students put forth to achieve academically is complex and continues to be the subject of research. Both Weiner (1990) and Fisher (1991) point out the difficulty of measuring educational or achievement motivation for research purposes. Academic motivation is complex and only inferred from evidences of effort. It is simultaneously a cause and an effect of learning. Although motivation must be present for learning to occur it can also be created by learning, when for example, something new is learned.

> Academic motivation refers to motivation as it is manifested in academic learning situations. We distinguish it from other types of motivation because it focuses on those drives and impulses which relate directly to the cognitive processes and persistence in the purposes involved in scholastic achievement (Fisher, 1991).

The primary elements of academic motivation are cognitive drive or achievement, ego-enhancement or power, and affiliation (Grossnickle, 1990; Fisher, 1991). Cognitive drive is the need to know, to understand, to master knowledge, or to formulate and solve problems. It is the result of cognitive dissonance or innate curiosity. Ego-enhancement or power is the fundamental satisfaction of the individual's need for feelings of adequacy, self-esteem, and status. Affiliation originates from the need of the individual to identify with other groups or individuals. These three elements operate in some combination at all times during school learning, with cognitive drive probably being the most basic (Fisher, 1991).

A longitudinal study of at-risk community college students enrolled in a reading improvement course (Hennessey, 1990) found significant differences in persistence (credit hours completed), achievement (computed grade point average

minus repeated courses), and dropout rates among those students who successfully completed a reading improvement course (Followers), those who were recommended but did not enroll (Avoiders), and those who did not complete (Noncompleters) or were exempted (Exempts). Students were assessed and recommended on the basis of a score of 3 (7th-9th grade reading level) on The Reading Progress Scale (Carver, 1975). The reading improvement course was self-paced and individualized. Students worked independently and met weekly with an instructor for a private conference to discuss their work. Skills including study skills, organizational skills, vocabulary knowledge, critical and strategic reading skills, and reading rate were taught via audiovisual materials and assignments in a reading improvement text.

Even though Followers were significantly more persistent and academically successful, only 19 (7%) of the 284 students from this sample attempted 49 or more credits. The majority of Avoiders attempted and earned significantly fewer credits and eventually dropped out while Noncompleters dropped out in the first semester and were excluded from the study. If affective data had been available could the persistence and achievement of all students have been enhanced? Did the Followers possess different goals, work habits, attitudes, and motivations than the other groups? By combining affective and academic information could the identification, placement, intervention, and retention of at-risk students have been improved?

Gottfried (1990) examined the academic intrinsic motivation (cognitive drive) of young children. Both the longitudinal and the cross-sectional study validated academic intrinsic motivation as a reliable and significant construct for children's (grades 4-8) effective school functioning. The degree of curiosity, persistence, task-endogeny, and the

desire to learn challenging and novel tasks at age 7 predicted later academic motivation (age 9). It was positively related but not dependent upon IQ; and appeared to be more a result than an indicator of achievement. However, as age and grade increased, so did the relationship between motivation and achievement. Intrinsic academic motivation or cognitive drive became a stronger predictor of achievement. Rea (1991) investigated the motivation orientation of college students in relation to their perceptions of success in an introductory psychology course. Intrinsic motivation characterized by curiosity, mastery, and preference for challenge was predominant for college students' perceptions of success as well. Students wanted more than just a high grade (extrinsic motivation), they desired a high grade that represented their best effort (intrinsic motivation).

Gottfried (1990) found that grades act as extrinsic indicators of achievement and have a complex effect upon intrinsic motivation. When achievement is high, grades provide positive feedback about personal capabilities providing support for ego-enhancement. But low grades may cause the student to feel the academic task demands are beyond their control, to adopt a more helpless orientation, and to assume lower levels of intrinsic academic motivation. Therefore, academically at-risk students are more likely to possess lower levels of intrinsic academic motivation consistent with their achievement history.

If motivation is the result of achievement during the early stages of school, then the bases for effective school functioning are acquired early. Gottfried strongly supports early intervention as an important step in preventing potential failure cycles. Recognition of early achievement provides the foundation for developing subsequent academic intrinsic motivation which is positively correlated to one's

self-perception of academic competence and negatively related to academic anxiety.

But if early intervention has not occurred, can the failure cycle be broken? Even when identification is accurate and reliable, does intervention as late as college have the potential for breaking the cycle, for altering the adult student's perception of efficacy toward school tasks, and for positively affecting academic performance?

The apparent effort put forth by students identified to be academically at-risk seems to reflect inadequate feelings of academic efficacy, competency, and self-esteem. The personal experience of many academic support center personnel reinforces the belief that at-risk students do not take the initiative in seeking out assistance, are difficult to monitor, and seemingly give up before trying. It is possible that the relationship between the at-risk students' feelings of academic inadequacy, locus of control, and subsequent low degree of self-esteem contribute to a sense of frustration and academic incompetence.

Multon, Brown, and Lent (1991) employed a quantitative meta-analytic methodology to analyze all studies investigating the relationship of self-efficacy beliefs to academic performance and persistence. Not only did they conclude self-efficacy to be robust as a variable in the prediction and explanation of student academic performance, but found that low-achieving students tended to benefit more from interventions which promoted academic self-efficacy beliefs. They recommended that researchers be more cognizant of the relationship of such factors as task difficulty and demands, students' stage of learning and learning style maturity, and performance when investigating self-efficacy in relation to persistence and performance.

Wilhite (1990) studied the affective variables of self-efficacy, locus of control, self-assessment of memory

ability, and study activities of 184 introductory psychology students. Although this study investigated the affective variables for the normal range student rather than the high-risk student, Wilhite found the strength of academic self-concept to be stronger predictor of academic success than self-efficacy alone. He further concluded that academic self-concept may not be as important a predictor as locus of control. Course achievement appeared to be the product of the extent to which students <u>believed</u> they could control the outcomes of their attempts at learning. He hypothesized that the relationship between student ability to identify the characteristics of an academic context and to control academic outcomes by their actions to be fundamental to self-efficacy beliefs, self-concept perceptions, persistence, and achievement. For example, the time students spent in study was not as important as the specific study behaviors used and the skill with which these study activities were executed.

The will to learn is related to a number of factors which can be influenced. Achievement motivation is a combination of complex drives, incentives, and aspirations occurring in different combinations for each individual. Fundamental to relevant intervention is influencing the level of students' achievement motivation by interrupting the cycle of failure or alternative motives by substituting ineffective patterns of thought with effective patterns of thinking. The negative "I can't" patterns of thinking must be replaced with successful patterns of thinking.

Reading Strategies/Study Habits
The Skill

Success in school may require more than just an attitude adjustment. Intervention must include instruction in the

effective use of studying and reading strategies. Grossnickle (1990) states that "behind successful school performance is the desire to do well, the ability to set realistic goals, the skills to adjust following failure, and a commitment to strive persistently to achieve." School is not a holding pattern in preparation for future endeavors; it is life. And "success in life is the product of . . .having the right tools!" (Nordic Flex commercial, 1993).

Contributions of recent research in reading and learning provide the conceptual and practical elements for the tools of successful intervention programs. "Good readers are meaning makers" (Hennings, 1992) and (trans)act with print. During transaction with print a good reader employs fundamental deciphering abilities, understands what is to be accomplished, activates previous feelings, experiences, and knowledge related to the topic, and purposefully proceeds with the task at hand. A good reader automatically employs tested and proven strategies such as imaging, self-questioning, story grammar structures, and summarizing to improve memory and comprehension (Pressley & Harris 1990). In addition, the reader must be comfortable with the organization of the text and able to quickly derive meaning from the order of the words and the length of the sentences.

Good readers read independently when they are able to recognize and derive meaning from at least 99% of the vocabulary with 90% understanding. Instructional levels vary from 91% word recognition with 100% comprehension to 100% word recognition with at least 55% understanding. Too often at-risk students perceive the purpose for reading to be limited to information gathering because taking tests is their only criteria for response. Usually the difficulty of the vocabulary and the conceptual load of college level reading materials is much greater than that required of students during high school. In addition, the reading and

vocabulary improvement texts often used in learning assistance classes bear little resemblance to the rest of the students' academic life.

When learners understand how to effectively allocate time, construct meaning from their reading, prepare thoughtful and well-developed papers, study appropriately for tests, and interact satisfactorily with teachers they possess what Sternberg, Okagaki, & Jackson (1990) coin as "tacit school knowledge." Many students, especially academically at-risk students, lack "tacit knowledge." Tacit knowledge is "knowledge that is not explicitly taught or even verbalized, but is necessary for an individual to thrive in an environment" (Sternberg et al., 1990). Students who lack this innate sort of knowing are less likely to succeed because they don't know how to use their intelligence effectively. Students who have not learned effective strategies for learning need direct instruction in reading, composing, computation, and problem solving strategies to dramatically increase their chances for survival.

Successful students, however, do not necessarily employ the effective study skills or habits identified by study manuals. In his review of the literature, Fisher (1989) found little relationship between students' knowledge of ideal study skills measured by study skills inventories, actual study behavior, and academic success. Although he acknowledged a relationship among academic motivation, study methods, and performance, the effect of one upon the other was difficult to establish from the empirical studies available. He concluded that students who succeed best are those characterized by positive attitudes, high academic motivation, and personal attributes which contribute to the adoption of effective study methods (Fisher, 1989).

Pokay and Blumenfeld (1990) surveyed 283 high school geometry students early and late in the semester to determine

the relationship of academic motivation and use of general and content specific learning strategies to achievement. They found that students who valued academics intrinsically were more likely to use appropriate and effective learning strategies. However, achievement was more closely related to content specific strategy use early in the semester while the more general cognitive strategies of planning and monitoring progress became more predictive of achievement later in the semester. Regardless, students with higher geometry expectancies or self-concept tended to persist and be more successful.

Pintrich and DeGroot (1990) found that 173 seventh grade English and science students were more likely to successfully employ self-regulated learning strategies when intrinsic value and self-efficacy were high regardless of prior or current academic achievement levels. Students were more likely to persist, become cognitively engaged, and develop self-regulated learning strategies as they attempted to comprehend and learn academic material. Independent of all other factors, students who were aware of a variety of learning strategies tended to more effectively use those strategies with increased levels of perceived competence and confidence related to school work performance.

Skinner, Wellborn, and Connell (1990) studied the effects of perceived control upon academic achievement of 220 third through sixth graders. Perceived control was divided into the constructs of locus of control, self-efficacy, and effective strategy use. It was determined that perceived control is directly related to academic motivation. In turn, academic motivation indirectly influences academic achievement because the child is engaged in learning. But even though the results indicate that perceived control is related to academic motivation, perceived control does not stand alone as a predictor. For example, a lower perception

of control may be related to a higher level of academic motivation than expected because the child feels that school is important or because there is a positive student-teacher relationship. Conversely, engagement may be lowered when the student feels pressured to perform or is alienated from the teacher. The interaction between self-efficacy and effective strategy use combine to produce higher and lower levels of engagement. Students gain a perception of control as they develop a map of reading/learning strategies that lead toward success and away from failure. Academic success is not the sole product of ability or other stable internal causes, but is related to the affective components of self-efficacy and perceived competency beliefs.

When Ames and Archer (1988) surveyed 176 junior high and high school students, they found that students demonstrated higher levels of academic motivation and chose to use effective learning strategies when the classroom environment emphasized mastery rather than performance goals. Mastery goals identify success as improvement or progress; value effort and learning; encourage hard work and challenge, and view mistakes as part of the learning process. The mastery-oriented teacher is more concerned with <u>how</u> students learn rather than comparing the grades achieved emphasized by the performance-oriented teacher.

Control beliefs are developed within the context of a conducive classroom climate and related to teacher behavior. Students who lack awareness of critical learning strategies or have accumulated negative academic experiences may need to learn new skills. Ideally, regular and support faculty collaborate to systematically use a variety of resources and techniques which enhance student involvement and commitment to learning by providing for interpersonal and affective needs as well as cognitive and skill requirements (Fisher, 1986; Keimig, 1983).

Teachers should use every effort to equip their students with learning strategies needed to be effective and independent learners. Instructors become better teachers as they identify the task demands and skills required for the courses they teach, recognize the strengths of various learning styles, incorporate innovative instructional methodologies and technologies, and emphasize mastery learning goals (Pressley & Harris, 1990). When instructors model and guide the use of effective learning strategies applied to a particular content course, students are more likely to perceive the strategy instruction as meaningful because it meets their needs for learning and reduces abstraction (Fisher, 1986; Pressley & Harris, 1990). Transfer of skills is insured because students are challenged to construct meaning and increase vocabulary understanding related to required coursework. When instruction is "scaffolded" (Wood, Bruner, & Goss, 1976) and progression is criterion-based rather than time-based (Graham & Harris, 1989a), it allows students to take responsibility for choosing processes that enhance their own learning. Students are more likely to accept responsibility for evaluating and monitoring their personal learning processes when feedback is timely and appropriate levels of monitoring prevents difficulties from becoming overwhelming or too complex. As students gain confidence in their ability to effectively manage their study behaviors during their study time, they are more likely to evaluate the quality of their learning, utilize effective study strategies, and position themselves to achieve academically.

> Though the needs of the underprepared student are complex, the motivational aspects are perhaps fundamental to all others, and they are best developed through a skills improvement program closely tied to a specific content area. In such situations needs are identified which require

> immediate attention and which will be immediately reinforced as they are remedied. By close monitoring of classroom activities, the teacher receives timely and reliable feedback on the effectiveness of the skills program and is able to supply ancillary assistance in areas like time management, career planning, goal setting, notetaking and classroom behaviors, improvement of concentration, memory improvement, test taking techniques, review skills, problem solving techniques and any of the other common difficulties students meet in adjusting to the demands of college life, as they become useful in facilitating student progress. (Fisher 1986, p. 206)

The most recent research refutes the long-standing contention that remedial programs do not improve student outcomes (Boylan, Bonham, & Bliss, 1992). However, nothing is more detrimental than "requiring a student to endure a "helping" experience that does not contribute to personal and educational growth" (Noel et al., 1985, p.15). Well-designed programs that are challenging and motivating, but not overwhelming, equip students with the basic skills and the effective learning strategies needed to increase academic confidence in individual ability to successfully manage academic task demands. Many students who complete these programs acquire the skills, the background, and the motivation to successfully pursue college level work. (Mickler & Chapel, 1989, p. 3). Students provided the opportunity to succeed against the odds are more likely to become supportive alumni, make positive contributions to their community and have a more positive long-term impact on society.

CHAPTER 3

THE METHOD

Type of Study

The study was initially designed to be an experimental study to investigate the relationship between academic motivation and academic achievement of selected first time students at Grand View College. The experimental group included students who were identified to be at-risk and chose to participate in intervention. The control group included students who were identified to be at-risk and chose not to participate in intervention. Due to the loss of subjects in the control group, the experimental design was modified to a controlled case study. The data from the experimental group was evaluated and conclusions were drawn.

This study is an *ex post facto* study. *Ex post facto* research is a "systematic, empirical inquiry in which the researcher has no direct control of independent variables because the manifestations have already occurred or because they are inherently not manipulable." The variables were studied in retrospect, in search of possible relationships of effects (Wiersma, 1986, p. 172).

Hypotheses

For the students enrolled in College Level Reading the null hypotheses would be stated as follows:

1) There will be no gain in the academic confidence pretest and posttest scores for students enrolled in College Level Reading as measured by the College Student Inventory.

2) There will be no significant correlation between academic confidence and grade point averages for students enrolled in College Level Reading.

3) There will be no gain in the study habits pretest and posttest scores for students enrolled in College Level Reading as measured by the College Student Inventory.

4) There will be no correlation between study habits and grade point averages for students enrolled in College Level Reading.

5) There will be no gain in reading pretest and posttest scores for students enrolled in College Level Reading as measured by the Nelson Denny Reading Test.

6) There will be no correlation between reading score gains and grade point averages for students enrolled in College Level Reading.

7) Students enrolled in College Level Reading will not achieve a successful 2.0 grade point average.

Population

The population from which the sample was drawn consisted of first time students at Grand View College who scored below a 12.2 grade equivalency on the Nelson Denny Reading Test From E and were strongly encouraged to enroll in College Level Reading Fall 1991 (n = 82).

Sample

The sample included those students who were identified by the Nelson Denny Reading Test Form E as reading below a 12.2 grade equivalency or 35th percentile, and expected to experience academic difficulty with a score above the 65th percentile on the College Student Inventory (n = 46). From this sample, the control group consisted of students who did not enroll in College Level Reading (n = 22) and the experimental group consisted of the students who did enroll in College Level Reading (n = 24). The intent was to posttest both the control and experimental groups of students with the same form of the College Student Inventory and the Nelson Denny Reading Test Form F. The posttest for the experimental group was carried out as planned, providing complete data for 19 students.

The control group posed a problem. Most students who were contacted for the posttest scheduled for testing, but failed to keep their appointments or declined to participate. The final number of students from the control group for whom all information was available equaled 6.

Students from the control group (n = 6) were then paired with students from the experimental group possessing similar academic characteristics to make comparisons. When the data were computed the variance was too great (F-max on the 2 sample t-test) to legitimize any statistical comparisons. Only simple comparisons of the two groups were therefore made and are included in the results.

The variance of the experimental group was within a legitimate range. A t-test was computed for the difference of the two means for correlated pretest and posttest raw scores for academic confidence, study habits, and reading.

Treatment

Members of the experimental group (n = 19) were enrolled in one of three College Level Reading sections taught by a single instructor during Fall semester 1991-1992 school year at Grand View College.

Students were assigned by their academic advisors during registration to enroll in the College Level Reading class that best fit their class schedule. This resulted in "cluster sampling. . . a naturally occurring group" (Borg & Gall, 1989, p. 226).

The same classroom procedures were followed with all Education 100 students (Course Syllabus, Appendix A). The course was designed to provide a foundation for developing academic reading and study behaviors for more successful management of college learning experiences. Activities and

assignments were planned to facilitate the process of applying reading/study strategies to a chosen content course in which the student was simultaneously enrolled. In addition to the normal first-time student advising procedures, students were required to schedule three individual conferences with the College Level Reading instructor throughout the semester. The intent of the conferences was to personalize the application of academic reading strategies to the specific course demands in which the student was enrolled. Conference notes were recorded.

The control group was enrolled in standard freshman courses and participated in normal freshman advising procedures.

Instrumentation

The College Student Inventory was administered as a pretest and posttest measure of the motivational dimensions of Academic Confidence and Study Habits which are elements related to academic persistence and success.

The Nelson Denny Reading Test Form E (pretest) and Form F (posttest) were administered to evaluate students' level of reading ability.

Individual conference notes were recorded.

Data Analysis

Raw scores were the basis of comparison for the Nelson Denny Reading Test Form E and Form F and the College Student Inventory pretest and posttest.

First semester grade point averages (GPA) were adjusted to reflect the inclusion of the "R" grade. Grand View College (at the time of this study) awarded students a grade of "R" for any course unsuccessfully completed. Consequently, "R" grade hours were not computed as a part of students' cumulative grade point averages. For this study, "R" scores were treated as "F" grades and assigned a value of 0. Letter grades were converted to number values. Then each student's GPA was recalculated to include all attempted hours.

Academic confidence, study habits, and academic achievement scores on the College Student Inventory were investigated for the experimental group ($n = 19$). The null hypothesis states that there would be no mean growth in academic confidence (Table 2) or study habits (Table 10) for highly at-risk students.

The ratio of the average change score divided by the standard deviation could be an indication that intervention was effective for the experimental group.

A one sample t-test was computed on the difference of the two means for correlated samples (with an F-max test to verify homogeneity of variance) on the pretest and posttest means for academic confidence (Table 6), study habits (Table

14), and reading scores (Table 18 & 19) to determine the significance of change.

Chi-square was computed to examine the extent to which the two variables of Academic Confidence and Grade Point Average (Table 3) and Study Habits and Grade Point Average (Table 11) were related. No significant relationship should exist between the two variables as stated by the null hypotheses. When a relationship does exist, the frequency distribution (Table 4 & 12) for one variable will depend on the categories of the other variable.

A positive change in Academic Confidence (AC) was tallied as High (H). A negative change in Academic Confidence(AC) was tallied as Low (L).

A positive change in Study Habits (SH) was tallied as High (H). A negative change in Study Habits (SH) was tallied as Low (L).

Grade Point Average (GPA) was successful or High (H) at the 2.0 level. Grade Point Average (GPA) was not successful or Low (L) below the 2.0 level.

Reading scores on the Nelson Denny Reading Test were considered High (H) for a positive gain in raw scores and grade equivalencies and Low (L) for no gain or a negative gain on the raw scores and grade equivalencies.

The conference notes for the members of the experimental group were separated from the notes of the remaining members of the class. Original notes were read systematically several times. Main ideas of each conference were noted and

patterns were sought among the ideas. Themes related to study behaviors emerged from the patterns, were identified, and selected for discussion based upon the review of the literature related to study habits and strategies students actually use during study time.

CHAPTER 4

RESULTS

For purposes of identification and placement Fall 1991, 82 students scored below the 35th percentile on the Nelson Denny Reading Test and were strongly advised to enroll in College Level Reading. Eighty-three students were identified as academically at-risk by the College Student Inventory. Forty-six students were identified to be academically at-risk by both the Nelson Denny Reading Test and the College Student Inventory. Twenty-four of the 46 students (52%) enrolled in College Level Reading. Twenty-two or 48% chose not to enroll in College Level Reading.

Retention, grade point averages, and pretest and posttest scores for academic confidence, study habits, and reading were collected for this study.

The retention for all first time students continuing from Fall 1991 into Spring 1992 at Grand View College was 87%. The retention rate for students recommended by the Nelson Denny Reading Test and enrolled in College Level Reading was 77% compared to a 60% retention rate for those students who chose not to enroll. Likewise students identified by both the Nelson Denny Reading Test and College Student Inventory were retained at a higher percentage (67%)

than those students who did not enroll in College Level Reading (59%).

First semester grade point averages, and pretest and posttest scores for academic confidence, study habits, and reading for the 19 students identified by the Nelson Denny Reading Test and the College Student Inventory and enrolled in College Level Reading are summarized on Table 1.

A numerical grade point average is listed as well as raw scores and gains for academic confidence, study habits and reading pretests and posttests. Students' grade point averages (GPA) are categorized as High (+2.0) or Low (-2.0) and academic confidence and study habits are categorized as High (positive gain) or Low (negative gain) for differences in pretest and posttest scores.

The mean pretest, posttest and one semester gain scores for Academic Confidence are reported on Table 2. Academic Confidence increased by +4.68 for the 19 at-risk students enrolled in College Level Reading. However, the correlation between high/low grade point averages related to academic confidence scores (Table 3) is not significant at 2.04 ($p = .1533$). Observed frequencies and expected values for academic confidence and grade point average correlations are summarized on Tables 4 and 5. The ratio of average change score was 0.7 for academic confidence.

Table 1
Summary of Data for At-Risk Students Enrolled in College Level Reading (n = 19)

	Student	GPA	Academic Conf	GPA Numeric	AC Pre	AC Post	Study Habits X_1	SH Pre	SH Post	AC Gain Score
1	C1	Low	High	1.15	-14	-4	High	-8	-4	10.00
2	D2	Low	Low	1.67	-6	-10	Low	3	-13	-4.00
3	F3	Low	High	1.90	2	4	High	4	11	2.00
4	F4	Low	Low	.35	11	6	Low	-15	-10	-5.00
5	F5	High	High	3.00	-5	6	High	-6	3	11.00
6	F6	Low	High	1.50	5	7	High	-4	5	2.00
7	G7	Low	High	1.00	-2	3	High	-8	-5	5.00
8	H8	Low	Low	1.61	1	-5	High	-7	17	-6.00
9	H9	High	High	2.52	-11	-4	Low	-2	-9	7.00
10	L10	Low	High	1.80	-5	-3	Low	4	2	2.00
11	O11	High	High	2.43	-2	0	Low	4	0	2.00
12	S12	High	High	2.10	-1	3	High	0	6	4.00
13	S13	High	High	2.25	-15	-1	High	-4	8	14.00
14	S14	Low	Low	1.93	5	2	Low	0	-1	-3.00
15	S15	Low	High	.48	-15	-6	Low	-5	-6	9.00
16	T16	High	High	3.11	-3	10	High	-2	12	13.00
17	T17	High	High	2.30	-8	4	High	-5	28	12.00
18	T18	High	Low	2.40	-7	-8	Low	0	-7	-1.00
19	Z19	High	High	2.00	3	18	High	-14	0	15.00

Note: GPA = grade point average High(+2.0)/Low(-2.0); Academic Conf = Academic Confidence High(positive gain/Low(negative gain); AC Pre = Academic Confidence Pretest raw score; AC Post = Academic Confidence Posttest raw score; Study Habits High(positive gain)/Low(negative gain); SH Pre = Study Habits Pretest raw score; SH post = Study Habits Posttest raw score; AC Gain Score = Academic Confidence Gain score;

	SH Gain Score	Reading GE Pre	Reading GE Post	Reading RS Pre	Reading RS Post	GE Gain Y_1	RS Gain Y_2
1	4.00	7.70	9.70	50.00	62.00	2.00	12.00
2	-16.00	10.20	13.20	66.00	90.00	3.00	24.00
3	7.00	9.80	13.70	63.00	96.00	3.90	33.00
4	-3.00	12.00	15.20	80.00	115.00	3.20	35.00
5	9.00	11.00	13.00	72.00	88.00	2.00	16.00
6	9.00	11.50	14.00	76.00	100.00	2.50	24.00
7	3.00	9.20	13.00	59.00	88.00	3.80	29.00
8	24.00	10.50	15.50	68.00	118.00	5.00	50.00
9	-7.00	11.60	14.80	77.00	110.00	3.20	33.00
10	-2.00	12.20	14.40	82.00	104.00	2.20	22.00
11	-4.00	5.40	10.20	38.00	66.00	4.80	28.00
12	6.00	10.20	12.40	66.00	84.00	2.20	18.00
13	12.00	8.40	11.10	55.00	73.00	2.70	18.00
14	-1.00	14.50	16.00	105.00	123.00	1.50	18.00
15	-1.00	6.00	13.30	41.00	91.00	7.30	50.00
16	14.00	9.80	12.70	58.00	86.00	3.70	28.00
17	33.00	8.00	14.30	53.00	103.00	6.30	50.00
18	-7.00	8.40	13.00	55.00	88.00	4.60	33.00
19	14.00	8.80	12.30	57.00	83.00	3.50	26.00

Note: SH gain Score=Study Habit Gain score; Reading GE Pre=Nelson Denny Pretest Grade Equivalent; Reading GE Post=Nelson Denny Posttest Grade Equivalent; Reading RS Pre=Nelson Denny Pretest Raw Score; Reading RS Post=Nelson Denny Posttest Raw Score; GE Gain=Grade Equivalent Gain(Reading); RS Gain=Raw Score Gain(Reading)

Table 2

Academic Confidence Raw Score Gains (n = 19)

X_1: AC Pre [a]

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
-3.53	7.2	1.65	51.82	-204.14	19
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum of Sqr.:**	**# Missing:**
-15	11	26	-67	1169	0

[a]AC Pre = Academic Confidence Pretest raw score

X_2: AC Post [a]

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.16	6.83	1.57	46.7	590.16	19
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum of Sqr.:**	**# Missing:**
-10	18	28	22	866	0

[a]AC Post = Academic Confidence Posttest raw score

X_3: AC Gain Scores [a]

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4.68	6.72	1.54	45.12	143.39	19
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum of Sqr.:**	**# Missing:**
-6	15	21	89	1229	0

[a]AC Gains Scores = Academic Confidence raw score gains

Table 3

Correlation of Grade Point Averages to Academic Confidence Raw Scores for At-Risk Students (n = 19)

Coded Chi-Square X 1: GPA Y 1: Academic Conf

Summary Statistics

DF:	1	
Total Chi-Square:	1.4	p = .2376
G Statistic:	1.4	
Contingency Coefficient:	.21	
Phi:	.22	
Chi-Square with continuity correction:	.58	p = .4452

Table 4

Observed Frequency of High/Low Grade Point Averages to Academic Confidence Raw Scores (n = 19)

Observed Frequency Table

	Low	High	Totals:
Low	4	1	5
High	6	8	14
Totals:	10	9	19

Table 5

Expected Values for High/Low Grade Point Averages to Academic Confidence Raw Scores (n = 19)

Expected Values

	Low	High	Totals:
Low	2.63	2.37	5
High	7.37	6.63	14
Totals:	10	9	19

The one sample t-test for raw score gain in academic confidence (Table 6) does not indicate a significant difference between pretest and posttest scores. Neither do the unpaired t-tests for significance of difference in academic confidence and GPA (Table 7) or academic confidence and reading (Tables 8 & 9) indicate a significant difference between the academic confidence gain score and high/low GPA or high/low reading scores.

Table 6

One Sample t-Test for Academic Confidence Raw Score Gains (n = 19)

One Sample t-Test X 1: AC Gain Score

DF:	Sample Mean:	Pop. Mean:	t Value:	Prob. (2-tail):
18	4.68	0	3.04	.007

Table 7

Unpaired t-Test for Differences in Academic Confidence Raw Score Gains and High/Low Grade Point Averages (n = 19)

Unpaired t-Test X 1: Academic Conf Y 1: GPA Numeric

DF:	Unpaired t Value:	Prob. (2-tail):
17	-.96	.3485

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	5	1.59	.76	.34
High	14	1.97	.74	.2

Table 8
Unpaired t-Test for Grade Equivalent Gains on the Nelson Denny Reading Test and Academic Confidence Raw Score Gains on the College Student Inventory (n = 19)

Unpaired t-Test X 1: Academic Conf Y 1: GE Gain

DF:	Unpaired t Value:	Prob. (2-tail):
17	-.15	.886

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	5	3.46	1.4	.62
High	14	3.58	1.61	.43

Table 9
Unpaired t-Test for Raw Score Gains on the Nelson Denny Reading Test and Academic Confidence Raw Score Gains on the College Student Inventory (n = 19)

Unpaired t-Test X 1: Academic Conf Y 2: RS Gain

DF:	Unpaired t Value:	Prob. (2-tail):
17	.72	.4788

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	5	32	12.19	5.45
High	14	27.64	11.34	3.03

Table 10 reports the mean pretest, posttest and gain score for items related to study habits on the College Student Inventory for the 19 at-risk students enrolled in College Level Reading. Although the mean gain score was +4.95, the correlation between high/low study habits and high/low grade point averages was not significant (Table 11).. Observed frequences and expected values are reported on Tables 12 and 13. The ratio of change score for study habits equaled 0.43.

Table 10

Study Habits Raw Score Gains (n = 19)

X_1: SH Pre

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
-3.42	5.57	1.28	31.04	-162.84	19
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum of Sqr.:**	**# Missing:**
-15	4	19	-65	781	0

X_2: SH Post

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.53	10.89	2.5	118.49	713.16	19
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum of Sqr.:**	**# Missing:**
-18	28	46	29	2177	0

X_3: SH Gain Scores

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
4.95	11.53	2.65	132.94	233.05	19
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum of Sqr.:**	**# Missing:**
-16	33	49	94	2858	0

Table 11
Correlation of Grade Point Averages to Study Habits Raw Scores for At-Risk Students (n = 19)

Coded Chi-Square X 1: GPA Y 1: Study Habits

Summary Statistics

DF:	1	
Total Chi-Square:	.54	p = .4625
G Statistic:	.54	
Contingency Coefficient:	.17	
Phi:	.17	
Chi-Square with continuity correction:	.07	p = .7876

Table 12
Observed Frequencies for High/Low Grade Point Averages to Study Habits Raw Score Gains (n = 19)

Observed Frequency Table

	Low	High	Totals:
Low	5	3	8
High	5	6	11
Totals:	10	9	19

Table 13
Expected Values of High/Low Grade Point Averages to Study Habits Raw Score Gains (n = 19)

Expected Values

	Low	High	Totals:
Low	4.21	3.79	8
High	5.79	5.21	11
Totals:	10	9	19

The one sample t-test for gains in raw score gains (Table 14) on study habits does not indicate a significant difference.

Table 14
One Sample t-Test for Study Habits Raw Score Gain (n = 19)

One Sample t-Test X 2: SH Gain Score

DF:	Sample Mean:	Pop. Mean:	t Value:	Prob. (2-tail):
18	4.95	0	1.87	.0778

The unpaired t-tests for study habits gains and high/low grade point averages (Table 15) and study habits and reading (Tables 16 & 17) do not show significant levels of difference between the study habits score gains and high/low GPA or high/low reading scores.

Table 15
Unpaired t-Test for Differences in Study Habits and High/Low Grade Point Averages (n = 19)

Unpaired t-Test X 1: Study Habits Y 1: GPA Numeric

DF:	Unpaired t Value:	Prob. (2-tail):
17	-.85	.4095

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	8	1.7	.85	.3
High	11	1.99	.67	.2

Table 16
Unpaired t-Test for Grade Equivalent Gains on the Nelson Denny Reading Test and Study Habit Gains and the College Student Inventory (n = 19)

Unpaired t-Test X 1: Study Habits Y 1: GE Gain

DF:	Unpaired t Value:	Prob. (2-tail):
17	.42	.6767

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	8	3.73	1.81	.64
High	11	3.42	1.35	.41

Table 17
Unpaired t-Test for Raw Score Gains on the Nelson Denny Reading Test and Study Habit Raw Score Gains on the College Student Inventory (n = 19)

Unpaired t-Test X 1: Study Habits Y 2: RS Gain

DF:	Unpaired t Value:	Prob. (2-tail):
17	.51	.6191

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	8	30.38	9.93	3.51
High	11	27.64	12.7	3.83

All 19 students made positive gains between pretest and posttest raw scores and grade equivalencies averaging an increase of +3.5 grade equivalencies in one semester. Students did achieve statistically significant levels of gain on grade eqivalents (10.17, p = .0001) (Table 18) and raw scores (t = 11.01, p = .0001) (Table 19) for the pretest-posttest scores on the Nelson Denny Reading Test.

Table 18
One Sample t-Test for the Grade Equivalent Gain on the Nelson Denny Reading Test (n = 19)

Unpaired t-Test X 1: GPA Y 1: GE Gain

DF:	Unpaired t Value:	Prob. (2-tail):
17	-.32	.7557

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	10	3.44	1.71	.54
High	9	3.67	1.38	.46

Table 19
One Sample t-Test for the Raw Score Gain on the Nelson Denny Reading Test (n = 19)

Unpaired t-Test X 1: GPA Y 2: RS Gain

DF:	Unpaired t Value:	Prob. (2-tail):
17	.36	.7246

Group:	Count:	Mean:	Std. Dev.:	Std. Error:
Low	10	29.7	12.64	4
High	9	27.78	10.5	3.5

But the unpaired t-tests for grade equivalent gains in reading and grade point averages (Table 20) and raw score reading gains and grade point averages (Table 21) do not reveal significant levels of differences between reading gains and high/low grade point averages.

Table 20
Unpaired t-Test for Differences in Grade Equivalent Gains on the Nelson Denny Reading Test and High/Low Grade Point Averages (n = 19)

One Sample t-Test X 1: GE Gain

DF:	Sample Mean:	Pop. Mean:	t Value:	Prob. (2-tail):
18	3.55	0	10.17	.0001

Table 21
Unpaired t-Test for Differences in Raw Score Gains on the Nelson Denny Reading Test and High/Low Grade Point Averages (n = 19)

One Sample t-Test X 2: RS Gain

DF:	Sample Mean:	Pop. Mean:	t Value:	Prob. (2-tail):
18	28.79	0	11.01	.0001

The mean grade point average for the 19 at-risk students enrolled in College Level Reading equaled 1.87 (Table 22). The frequency distribution is summarized on Table 23.

Table 22

Mean Grade Point Average for At-Risk Students (n = 19)

X_1: GPA Numeric

Mean:	Std. Dev.:	Std. Error:	Variance:	Coef. Var.:	Count:
1.87	.75	.17	.56	39.9	19
Minimum:	**Maximum:**	**Range:**	**Sum:**	**Sum of Sqr.:**	**# Missing:**
.35	3.11	2.76	35.5	76.33	0

Table 23

Frequency Distribution of Grade Point Averages for At Risk Students (n = 19)

X_1: GPA Numeric

Bar:	From: (≥)	To: (<)	Count:	Percent:	
1	0	1	2	10.53%	
2	1	2	8	42.11%	- Mode
3	2	3	7	36.84%	
4	3	4	2	10.53%	

The academic confidence and study habits data for the control and experimental group (Table 24) are reported, but the varience is too large and the sample size too small to legitimize a comparison. Even so it is interesting to note the students in the experimental group who were enrolled in College Level Reading made greater gains than the control group who were not enrolled in College Level Reading on all measures except average growth in intellectual interests.

Table 24

Characteristics of Paired Students (n = 6)

	Control	Experimental
Average ACT Reading score	15.2	14.5
Average NDRT (E) G.E.(pretest)	12.1	10.4
Average NDRT (F) G.E.(posttest)	13.8	13.8
NDRT Growth	+ 1.7	+2.43
Average GPA (1st semester)	1.97	2.43
Average growth Academic Confidence(raw scores)	+ 7.80	+11.20
Average growth of Attitude Toward Educators	- 0.50	+ 5.80
Average growth Desire to Finish College	- 2.70	- 2.00
Average growth Intellectual Interests	+ 4.70	+ 3.80
Average growth Study Habits	+ 1.00	+14.30

CHAPTER 5

CONCLUSIONS

Assessment instruments which evaluate both academic and nonacademic factors seem to provide more reliable information about students identified to be academically at-risk.

Although the intervention provided for one semester for academically at-risk first time students at Grand View College was not statistically significant, it was of value.

Reliable assessment is basic for making timely and accurate decisions related to the identification and instruction of academically at-risk students. For intervention to be successful, elements that modify students' attitudes and behavior must be dealt with concurrently.

To identify and place students using only the Nelson Denny Reading Test provided little information about how students thought or operated in a reading or studying situation. Additional concerns focused not only on the appropriateness of the assessment instrument, but the ethics of assigning students for intervention based upon a single standardized score without taking into account other variables affecting learning and learning success. Even though students enrolled in College Level Reading over the past three years have made significant gains on The Nelson

Denny Reading Test after one semester of intervention, no additional statistical investigation had been conducted to evaluate the relationship among gains made on the Nelson Denny Reading Test, changes in student attitude and behavior, achievement of successful grade point averages, or retention.

The College Student Inventory provides a wealth of self-reported information assessing students' predispositions, pre-college experiences, and self-reported needs as well as personal motivational factors often overlooked, but critical to persistence and success. If a standardized survey instrument like the College Student Inventory could provide accurate and timely information about the nonacademic and academic characteristics of students, then perhaps it could provide a means for improving instructional decisions and the effectiveness of intervention. Practitioners may acknowledge the influence of confidence, motivation, self-efficacy, and strategy use in the dynamics of instruction, but little documentation supports the concrete contributions of these elements to students' success.

The Chi-square test was conducted to determine the relationship between academic confidence and grade point average and study habits and grade point average. Although gains were made, the significance of the possible predictive nature of academic confidence or study habits upon grade point average is not documented. One semester is probably not long enough to radically change patterns of thought or behavior students have practiced throughout their educational

careers. It is possible, however, that students may have acquired new skills gradually throughout the term, but the growth failed to compensate for poor work done at the beginning of the semester. Term grades are cumulative and reflect poor early performance regardless of skill development in a single semester. "Both GPA and retention are dependent on a variety of interacting factors. To expect a single course to compensate for all of them in a relatively short period of time is unreasonable" (Fisher, 1986, p. 192). However, a mean increase, although not statistically significant, in both study habits and academic confidence indicates a move in the right direction for the at-risk student.

An issue of interest is one's ability to assess students' use of effective learning strategies using a standardized survey instrument. Fisher (1989) discovered that few of the "good" study habits outlined in study skills texts have been empirically demonstrated as contributing to academic achievement. The study habit questions on the College Student Inventory also seem to assess the characteristics of "the ideal student" (Fisher, 1989) emphasizing the regularity and consistency of how time is used rather than the specific strategies employed during study. Habits imply regular and consistent behavior. The survey questions related to study habits asked about putting off assignments, the irregular and unpredictable use of time, level of self-discipline, and studying hard (whatever that

means). The relationship of study habits for at-risk students at Grand View College do not indicate significant correlations with subsequent grade point averages. Perhaps the relationship sought has more to do with making time, regardless of the regularity or consistency, and using appropriate learning strategies during reading and study time to effectively get the job done. At-risk students reported making time for study and adapting a useful reading-study system was important in contributing to their attitudes toward college work, but little reference was made of the regularity or consistency of the time spent studying. Further investigation through personal interview would be helpful in future studies to determine the degree college level students' use or modify their use of documented effective reading and comprehension strategies and the relationship of use to academic achievement and persistence.

Of interest in the present study were the differences between the students identified by the Nelson Denny Reading Test (82) as needing help and the students identified by the College Student Inventory (83) as needing help compared with 46 or 55% of those students identified by both instruments expected to experience academic difficulty. Could these 46 students identified by both instruments be considered most at-risk? Also of interest was the fact that only about 50% of the students recommended for College Level Reading on the basis of these instruments enrolled in the course.

Retention was better for at-risk students who enrolled in College Level Reading, but the difference between the students who enrolled and those who did not was not statistically significant.

Although the final control group was too small in number to conduct statistical comparisons, it was interesting to note simple comparisons. The experimental group who were enrolled in College Level Reading made greater gains than the control group who were not enrolled in College Level Reading on all measures except average growth in intellectual interests.

Time was a factor. Future studies need to include longitudinal information or recommendations for longer provisions of support in monitoring at-risk students.

Academically at-risk students possess a unique combination of characteristics. Some of the difficulty of scheduling and testing the non-enrollees in this research study could be indicative of the elusiveness of the at-risk student. Like the fiddler on the roof, there is a tenuous balance between giving the at-risk student freedom to experience the realities of college life as it is and the security of structure and follow-up. At-risk students tend not to seek out assistance or seek it out too late. Systems for monitoring the at-risk student are important to provide timely feedback informing them of their progress or lack thereof. Part of the solution is to provide several alternatives for the at-risk student to establish and achieve

their goals. By equipping at-risk students with learning strategies related to the task demands and acknowledging personal learning styles, their attitudes and motivations for success should continue to improve and influence academic persistence and success.

Appendix A

Grand View College
Course Syllabus
Education 100
College Level Reading
Fall 1991

Social Science Division
Carolyn Wassenaar
263-2971

Course Description

This course is designed to improve students' effective reading skills at the college level. Students have the opportunity to apply vocabulary, comprehension, and study strategies to the content area of their choice.

Instructional Objectives

Learning as Knowledge: The student should be able to:

*Develop a purpose for reading
*Read actively with understanding
*Read strategically utilizing cues from the printed word
*Identify personal reading/learning strengths and weaknesses
*Understand the technical vocabulary of the content areas in which the student is presently enrolled
*Improve general vocabulary recognition and usage

Learning as Process: The student should be able to:

*Adapt the SQ3R approach to a variety of reading situations and content areas
*Integrate a variety of appropriate reading and study strategies which will increase the effectiveness of study time
*Strengthen weaknesses through appropriate remediation or compensation strategies
*Develop techniques for learning and remembering general and technical vocabulary
*Apply appropriate test preparation and taking strategies
*Increase levels of concentration
*Utilize time effectively balancing class, study, recreation, and work responsibilities
*Record usable notes for review and test preparation

Learning as Attitude:

*Develop an appreciation for his/her personal worth
*Value independent life-long reading/learning behaviors

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